

WHAT IS CLAIMED IS:

1 *Sub E1* 1. A method of documenting delivery and content of an electronic message,
2 comprising:

3 receiving an electronic message from a message sender, the electronic message
4 having at least one designated electronic delivery address associated therewith;

5 transmitting the electronic message to said designated address;

6 receiving electronic delivery status notification information regarding delivery of
7 the electronic message to the designated address;

8 computing a message authentication code corresponding to at least the message;

9 assembling a copy of at least a portion of the message, the electronic delivery
10 status notification information, and the message authentication code, said assemblage
11 defining an electronic receipt; and

12 transmitting the receipt to a storage means.

1 2. The method of claim 1 wherein transmitting the receipt to a storage means
2 comprises transmitting the receipt to the message sender.

1 3. The method of claim 2 further comprising the step of discarding the original
2 message after transmitting the electronic receipt to the sender.

1 4. The method of claim 1 further comprising at a later time:
2 receiving a purported receipt and a purported message authentication code
3 associated therewith;

4 determining that the purported message authentication code corresponds to the
5 message; and

6 providing sworn testimony verifying content and delivery of the message to the
7 addressee.

1 5. The method of claim 1 wherein said sworn testimony is provided for a fee.

1 6. The method of claim 1 wherein the message authentication code corresponds
2 additionally to delivery status and delivery time information.

1 7. The method of claim 1 wherein the step of computing an authentication code
2 comprises:

3 computing a first message digest corresponding to at least a body of the message;
4 computing a second message digest corresponding to an attachment to the
5 message;

6 computing an overall message digest corresponding to said first and said second
7 message digests; and

8 encrypting said overall message digest to create a digital fingerprint.

1 8. The method of claim 1 wherein computing a message authentication code
2 comprises:

3 using a secure hashing algorithm, computing a message digest corresponding to
4 at least the message and the electronic delivery status notification information.

1 9. The method of claim 1 wherein said transmitting step comprises:

2 establishing a direct telnet connection with an e-mail server associated with the
3 destination address; and

4 transmitting the message directly to said e-mail server.

1 10. The method of claim 1 further comprising the step of tagging the message to
2 indicate that it has been registered with a third party prior to said step of transmitting the
3 message to said designated address.

1 11. The method of claim 1, wherein:

2 said step of receiving an electronic message comprises receiving the electronic
3 message as an e-mail cc; and

4 the electronic delivery address is determined by examining a delivery address
5 designated within a header associated with the message.

1 12. A method of providing proof regarding the delivery and content of an
2 electronic message, comprising:

3 receiving from a sender across a computer network an electronic message, said
4 message having a delivery address associated therewith;

5 sending said message electronically to a destination corresponding to said
6 delivery address;
7 receiving delivery status notification information associated with said message
8 and said delivery address;
9 providing to said sender:
10 a substantial copy of said message;
11 said delivery status notification information; and
12 a message digest computed substantially from said message copy and said
13 delivery status notification information; and
14 at a future date receiving electronically said electronic receipt from said sender,
15 verifying that said message digest corresponds to said message, and verifying that said
16 message was received by an electronic message handler associated with said delivery
17 address.

1 13. An electronic message server programmed to implement the method of
2 claim 12.

1 14. A computer readable memory capable of causing a computer to implement
2 the method of claim 12.

1 15. The method of claim 12 further comprising:
2 sending said message to a plurality of additional destinations corresponding to
3 additional delivery addresses associated with the message;
4 receiving additional delivery status notification information associated with said
5 message and said additional delivery addresses; and
6 sending a delivery verification message to the sender, the delivery verification
7 message including:
8 a list of all of said addresses; and
9 said delivery status notification information respectively corresponding to
10 all of said addresses, said delivery status notification information including for
11 each addressee a listing of whether or not delivery was successful and, if delivery
12 was successful, the date and time at which delivery occurred.

1 16. The method of claim 12 wherein said computer network is the Internet and
2 said electronic message is an e-mail message.

1 17. The method of claim 12 wherein the step of sending said message
2 electronically to a destination corresponding to said delivery address comprises:

3 establishing direct communication to a recipient electronic message server
4 corresponding to said destination; and

5 sending said electronic message directly to said recipient electronic message
6 server; and

7 verifying that said recipient electronic message server reported receiving said
8 electronic message without errors.

1 18. The method of claim 17 wherein said direct communication comprises a
2 telnet connection across the Internet.

1 19. The method of claim 12, wherein said message digest is encrypted.

1 20. The method of claim 12, further comprising:

2 for a fee, providing sworn testimony verifying content of said message and
3 receipt thereof at said delivery address.

1 21. The method of claim 12, wherein said message digest includes:
2 a first message digest computed according to a body of said message; and
3 a second message digest computed according to an attachment to said message.

1 22. The method of claim 12, wherein said message digest comprises a first
2 message digest computed according to a body of said message and at least one electronic
3 attachment to said message.

1 23. A method of verifying delivery of an electronic message to a plurality of
2 destinations, comprising:

3 receiving an e-mail message, said e-mail message including a plurality of
4 destination e-mail addresses associated therewith and a message originator address
5 associated therewith;

6 forwarding said message to said plurality of addresses;
7 providing a report to said message originator, the report listing whether the
8 message was successfully transmitted to a computer associated with each respective
9 destination address, and if the message was successfully transmitted, the date and time at
10 which the e-mail was successfully received by the computer associated with the
11 respective destination address.

1 24. The method of claim 23 wherein the message is received from the sender
2 across the Internet; the report is sent to the sender across the Internet, and wherein the
3 method further comprises:

4 charging a fee to said message originator.

1 25. A method of verifying delivery of an electronic message, comprising:
2 in a computer system, receiving an electronic message from a message sender for
3 routing to a destination address;
4 establishing communication with an electronic message server associated with
5 the destination address, said server defining a destination server;
6 querying said destination server to determine whether said destination server
7 supports delivery status notification (DSN) functionality;
8 receiving a response to said query, said query and response together defining an
9 SMTP dialog;
10 requesting delivery status notification information from said destination server
11 according to results of said SMTP dialog;
12 transmitting said electronic message to said destination address;
13 receiving DSN information from said destination server with respect to delivery
14 of said electronic message; and
15 providing to said message sender at least a portion of said SMTP dialog, and at
16 least a portion of said DSN information.

1 26. The method of claim 25, wherein the providing step includes composing an
2 electronic receipt, said electronic receipt including:
3 a copy of said electronic message;

4 at least a portion of said SMTP dialog and at least a portion of said DSN
5 information; and
6 a message authentication code corresponding to content of said receipt.

1 27. A method of verifying content of a received electronic message, comprising:
2 registering a designated server as the recipient for messages addressed to e-mail
3 addresses at a plurality of top level domains;
4 receiving an electronic message addressed to a first e-mail address within said
5 plurality of top level domains;
6 generating a message authentication code corresponding to content of said
7 received message and delivery information associated with said message;
8 providing the message and the message authentication code to a recipient
9 associated with said first e-mail address;
10 at a later time, verifying that said message digest corresponds to said message
11 and delivery information.

1 28. The method of claim 27 wherein said message authentication code comprises
2 an encrypted message digest.

1 29. The method of claim 27 wherein said providing comprises POP mail service.

1 30. The method of claim 27 wherein said message authentication code and said
2 message are combined into a single delivered message provided to said designated
3 addressee.

1 31. A method of verifying delivery and reading of an electronic message,
2 comprising:
3 receiving an electronic message across the Internet from a message sender, said
4 message including an electronic destination address;
5 forwarding said message to a destination server associated with said destination
6 address;
7 requesting delivery status notification from said destination server;

8 receiving confirmation from said destination server that said message was
9 received;

10 sending to the message sender at least one receipt, said at least one receipt
11 including:

12 delivery information, said delivery information including the time at
13 which the message was received;

14 read notification information regarding when a user at said destination
15 address opened said electronic message for reading; and

16 at least one message authentication code corresponding to the message,
17 the delivery information, and the read notification information.

1 32. The method of claim 31 wherein said at least one receipt comprises:
2 a first receipt, said first receipt comprising said delivery information and a first
3 message authentication code associated therewith; and

4 a second receipt, said second receipt comprising said read notification
5 information and a second message authentication code associated therewith.

1 33. A method of verifying that an electronic message was sent, comprising:
2 generating an electronic message for a recipient from information received from a
3 message originator;

4 sending the electronic message to the recipient;

5 generating a message digest corresponding to content of the electronic message;

6 encrypting the message digest; and

7 sending the electronic message and the encrypted digest to the message
8 originator.

1 34. The method according to claim 33, further comprising:

2 tracking delivery status notification of the message;

3 appending the delivery status notification to the electronic message; and

4 storing the appended delivery status notification for later verification if needed.

1 35. The method according to claim 33, wherein the electronic message is sent
2 to the recipient through a computer network.

1 36. The method according to claim 35, wherein the computer network is a
2 wide area network.

1 37. The method according to claim 35, wherein the computer network is the
2 Internet.

1 38. A method of later proving that an electronic message was previously sent
2 to a recipient, comprising:

3 receiving from an independent party an electronic message, and further receiving
4 an address corresponding to an intended recipient of the message;

5 creating a validation code corresponding to the message;

6 transmitting the validation code to a storage means for storage thereat; and

7 sending the message to the recipient.

1 39. The method of claim 38 wherein said storage means comprises said
2 independent party.

1 40. The method according to claim 38 wherein said storage means comprises
2 an on-site memory device.

1 41. The method according to claim 38 wherein said validation code is a
2 message digest.

1 42. The method according to claim 41 further comprising:
2 encrypting the message digest;
3 creating a receipt, the receipt including the encrypted message digest; and
4 forwarding the receipt to the independent party for later verification if needed.

1 43. A method of establishing whether a message was electronically received
2 by a recipient, comprising:

3 providing a message to be dispatched electronically along with a recipient's
4 address from a sender;

5 dispatching the message electronically to the recipient's address;

6 upon receiving a delivery status of the message, generating a receipt, the receipt
7 including:

8 a copy of the message;

9 a digital signature associated with the message; and

10 the delivery status for the message; and

11 providing the receipt to the sender, for later establishing that the message was
12 electronically received by the recipient.

44. The method of claim 43 wherein the digital signature is an encrypted message digest.

1 45. The method of claim 43, wherein the message is an e-mail message.

1 46. The method of claim 43, wherein the digital signature is a message digest
2 corresponding to the message.

1 47. The method of claim 43, wherein the message is dispatched via the
2 Internet.

1 48. The method of claim 43, wherein the message is provided by logging onto
2 a registrant's server to create an e-mail message for the recipient.

1 49. The method of claim 43, wherein the status of the message is a Delivery
2 Status Notification.

1 50. The method of claim 43, wherein tracking for the delivery status of the
2 message dispatched is done for a period of up to about 24 hours

1 51. The method of claim 43, wherein tracking for the delivery status of the
2 message occurs for more than about 24 hours, and the receipt records that delivery of the
3 message is a delivery failure.

1 52. The method of claim 43, wherein the receipt further includes the time that
2 the message was received at the recipient's address.

1 53. The method of claim 43, wherein the message includes an attached file,
2 and wherein the method further comprises:

3 creating a message digest associated with the attached file; and
4 encrypting the message digest;

5 and wherein said dispatching step includes dispatching the message including the
6 attached file.

1 54. The method of claim 43, further including:
2 sending the receipt to the sender of the message.

1 55. The method of claim 43, further comprising:
2 requesting a reading receipt from the recipient; and
3 if the request for a reading receipt is responded to by the recipient, generating a
4 second digital signature corresponding to the contents of the reading receipt and sending
5 the second digital signature to the sender.

1 56. A method of proving that an electronic message sent to a recipient was read,
2 comprising:

3 receiving an electronic message along with a recipient's address;
4 calculating a message digest corresponding to the electronic message;
5 dispatching the electronic message electronically to the recipient's address;
6 requesting a reading notification;
7 upon receiving the reading notification, generating at least one reading receipt,
8 the at least one reading receipt including:

9 a copy of the message;
10 a first message digest for the corresponding electronic message; and
11 a second message digest for the reading notification from the recipient;
12 and

13 providing the reading receipt for later verification that said message was received
14 by the recipient.

1 57. The method of claim 56 wherein the electronic message is provided by
2 logging onto a registrant's server to create an e-mail message for the recipient by a
3 sender.

1 58. The method of claim 57, further including:

2 sending the reading receipt to the sender of the electronic message.

1 59. The method of claim 56, further including:

2 - appending to the reading receipt any files accompanying the reading receipt; and
3 generating respective message digests for any of the accompanying files.

1 60. A method of validating the integrity of a purported copy of an electronic
2 message, comprising:

3 receiving said purported electronic message copy, said purported copy including
4 a digital signature and a transmission history associated therewith;

5 decrypting the digital signature:

generating a message digest based on content of the purported copy; and

7 validating the purported copy by comparing the decrypted digital signature and
8 the message digest to determine whether the two match.

1 61. The method according to claim 60, further comprising:

2 if requested, providing sworn testimony verifying the content of the electronic
3 message.

1 62. A method of registering an inbound electronic message, comprising:

2 generating a message digest corresponding to an inbound electronic message
3 being sent to a recipient's address;

4 encrypting the message digest to create a digital signature:

5 appending the message digest to the contents of the inbound electronic message
6 to create a receipt;

7 transmitting the electronic message to the recipient address; and
8 sending the receipt to an archival storage means.

1 63. The method according to claim 62 wherein the electronic message is an e-
2 mail.

1 64. A method of registering an e-mail, comprising:
2 generating a message digest for content corresponding to the e-mail;
3 encrypting the message digest;
4 appending the encrypted message digest to the content of the e-mail to create a
5 receipt;

6 sending the e-mail; and
7 transmitting the receipt to a storage means for storage thereat.

1 65. A method of documenting delivery of an e-mail message comprising:
2 receiving an e-mail message from a sender;
3 forwarding the message to at least one designated recipient;
4 recording delivery information associated with the forwarding of the message to
5 each designated recipient;
6 computing a message digest corresponding to the said message and delivery
7 information;
8 transmitting the message digest to the sender;
9 discarding the message; and
10 at a later time, examining said message, said delivery information, and said
11 message digest, and providing third party verification services attesting that said message
12 was sent to the designated recipient at the time indicated within the delivery information.

1 66. The method of claim 65, further comprising:
2 performing the steps recited in claim VK1 for each of a plurality of unrelated
3 entities, thereby providing independent third party e-mail authentication and verification
4 services for said entities.

1 67. The method of claim 65 further comprising:
2 programming a message transport agent associated with said sender to redirect
3 outgoing e-mail message originally addressed to said designated recipient, to a
4 designated third party, and to alter said message to include said designated recipient's e-
5 mail address;
6 and wherein said third party performs said forwarding, recording, computing, and
7 transmitting steps.

1 68. The method of claim 67 further comprising:
2 providing a flag which a message sender can set in order to designate a particular
3 outgoing message as a message to be registered.

1 69. The method of claim 65 further comprising:
2 advising the designated recipient that the message has been registered with a third
3 party verification service.

1 70. The method of claim 65, further comprising:
2 charging the message sender a fee, said fee selected from the group comprising of
3 a monthly fee, another periodic fee, a fee based on amount of data registered, and a per-
4 message fee.

1 71. The method of claim 65, wherein said attesting is performed for a fee.

1 72. An electronic receipt for delivery of an electronic message, said receipt
2 comprising:

3 a body of an electronic message;

4 delivery information pertaining to a date and time that the electronic message
5 body was delivered to a computer associated with a designated addressee; and

6 a message authentication code computed from said message body and said
7 delivery information, said message authentication code being computed by an
8 independent entity.

1 73. A method of providing electronic message registration services to the public,
2 comprising:

3 providing a worldwide web site at which a user can input a message and
4 designate a recipient by entering the recipient's electronic address;

5 receiving the message and the recipient's address via said website;

6 forwarding the message to the recipient's electronic address; and

7 providing secure documentation to the user pertaining to:

8 the message content; and

9 the date and time at which the message was forwarded to the recipient's
10 electronic address.

1 74. The method of claim 73 further comprising:

2 receiving delivery confirmation from a computer associated with said recipient's
3 electronic address, and including said delivery confirmation as part of said secure
4 documentation.

1 75. The method of claim 74 further comprising:

2 receiving reading receipt information regarding when the designated recipient
3 opened the electronic message for reading, and including said reading receipt
4 information as part of said secure documentation.

1 76. A method of providing e-mail message documentation services, comprising:
2 receiving an e-mail message from a message sender;
3 creating a copy of the message and appending to the message copy a tag advising
4 that the message has been registered with a third party e-mail registration service;
5 forwarding the tagged copy to a designated addressee; and
6 providing secure documentation to the message sender regarding content of the
7 message and delivery status information associated therewith.

1 77. A method of documenting delivery and content of an electronic message
2 comprising:

3 recording electronic message protocol exchanges that effect delivery of
4 the message to a destination mail transport authority (MTA);
5 assembling a copy of at least a first portion of the message, the protocol
6 exchanges, an authentication code corresponding to at least a second portion of
7 the message, said assemblage defining an electronic receipt; and
8 transmitting the receipt to a storage means.

1 78. The method of claim 77 wherein said protocol exchanges comprise simple
2 mail transport protocol (SMTP) exchanges.

1 79. The method of claim 77 further comprising:

2 assigning a fictitious return address to the message in such a way that a
3 receiving MTA will return delivery status notification (DSN) with sufficient
4 information so as to enable determination of which message and which
5 destination the DSN concerns merely by analysis of the DSN's return address and
6 without otherwise relying on content of said message.

1 80. The method of claim 77 further comprising:

2 scanning subject lines and bodies of a return MTA notification to
3 determine, by the presence of indicative phrases, whether the MTA notification

4 reports a successful delivery, a failed delivery, or the relay of the message to a
5 non extended simple mail transport protocol (ESMTP) complaint mailer.

1 81. The method of claim 77 further comprising:

2 assembling and delivering a delivery report which, for each successful
3 delivery of the message indicates whether the system is only able to verify on the
4 basis of said recorded protocol exchanges, delivery of said message to a
5 destination's mail server or, alternatively, whether the system is able to verify on
6 the basis of an MTA notification, delivery of the message to an electronic
7 mailbox corresponding to the destination.

1 82. A method of tracking delivering of a particular electronic message
2 comprising:

3 assigning a fictitious return address to the message, the fictitious return
4 address containing sufficient information to identify the original message; and

5 requesting message delivery status notification so as to cause a device
6 which receives the message to report delivery status information to the fictitious
7 return address.

1 83. The method of claim 82 wherein:

2 said fictitious return address contains sufficient information to identify
3 content of the message.

add
A
add
B
add c2